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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/585,506	05/09/2007	Gary Fairless Power	5141-00003	3651

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EXAMINER

SLOMSKI, REBECCA

ART UNIT	PAPER NUMBER
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2877

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/585,506	Applicant(s) POWER ET AL.	
	Examiner REBECCA C. SLOMSKI	Art Unit 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 42-67 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>05/09/07,01/21/08,07/29/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

Claim **56** is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 55. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims **42-46, 50, 51, and 54-57** are rejected under 35 U.S.C. 102(b) as being anticipated by Topcon EP 1291199 A1.

1. With respect to claims **42** and **57**, Topcon discloses a card decision apparatus comprising:

- Apparatus or method for inspection of at least one security article (Abstract)
 - A light source for directing a beam of light onto said diffractive optical projection element which transforms the beam into a patterned beam of light that is reconstructed at a particular position in space to form a projected image (Figure 8(a), Figure 8(b), P.0032)
 - At least one optical detection device located at the position at which the patterned beam of light is reconstructed to form the projected image (Figure 8(a))
2. With respect to claims **43**, **44**, and **45**, Topcon discloses all of the limitations as applied to claim 42 above. In addition, Topcon discloses:
- The light source is arranged to direct substantially collimated beam of light onto the diffractive optical projection element (P.0029)
 - Light source is a point light source (P.0029)
 - Light source is a laser (P.0029)
3. With respect to claim **46**, Topcon discloses all of the limitations as applied to claim 42 above. In addition, Topcon discloses:
- The optical detection device is arranged to detect the amplitude of different parts of the patterned light beam forming the projected image (P.0038)
4. With respect to claim **50**, Topcon discloses all of the limitations as applied to claim 42 above. In addition, Topcon discloses:

- The diffractive optical element is provided on an underlying reflective surface and the light source and optical detection device are positioned on the same side of the security article such that the optical detection device detects a reflected beam transformed by the diffractive optical projection element into the patterned beam and projected onto the optical detection device (Figure 8(a))
5. With respect to claim 51, Topcon discloses all of the limitations as applied to claim 42 above. In addition, Topcon discloses:
- The apparatus includes a plurality of optical detection devices (Figure 8(a), light receiving elements, 24c)
6. With respect to claim 54, Topcon discloses all of the limitations as applied to claim 42 above. In addition, Topcon discloses:
- The light source is moving light source which produces an incident light beam that scans across the diffractive optical projection element to create multiple signals at the optical detector (P.0034, P.0041)
7. With respect to claims 55 and 56, Topcon discloses all of the limitations as applied to claim 42 above. In addition, Topcon discloses:
- A processor for processing signal from the optical detection device, wherein the processor analyses multiple signals to differentiate constructive diffraction

produced by the diffractive optical element from a random or diffuse scattering of light (P.0035 and P.0037)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims **47-49, 52, and 53** are rejected under 35 U.S.C. 103(a) as being unpatentable over Topcon EP 1291199 A1.

8. With respect to claims **47** and **48**, Topcon discloses all of the limitations as applied to claim 42 above. However, Topcon fails to specifically disclose one or more photodiodes or a charge coupled device. Instead, Topcon a line sensor and light receiving elements.

It would have been obvious to one of ordinary skill in the art to use photodiodes and a CCD since these are well known detection tools in the art with a line sensor and light receiving elements being art recognized equivalents.

Using photodiodes or a CCD would be desirable to simplify the device because of the ease in acquiring them due to popularity and the standard understanding of their use.

9. With respect to claim **49**, Topcon discloses all of the limitations as applied to claim 42 above. However, Topcon fails to disclose the diffractive optical element is provided in a substantially transparent or translucent portion and that the light source and detector are on opposite sides of the window for transmission detection.

It would have been obvious to one of ordinary skill in the art to use transmission rather than reflection since these are art recognized equivalents for the detection art. Substituting transmission for reflection would be within routine skill in the art, as evidenced by U.S. Publication 2003/0123049 and U.S. Patent #5,568,251, and would be desirable depending on the type of object to be inspected.

10. With respect to claims **52** and **53**, Topcon discloses all of the limitations as applied to claims 42 and 54 above. However, Topcon fails to specifically disclose a plurality of light sources or that each of the light sources causes the patterned beam to be diffracted at a slightly different point on the optical detection device, creating multiple signals.

It would have been obvious to one of ordinary skill in the art to use a plurality of light sources to create multiple signals, rather than moving a single light source as Topcon discloses, since a plurality of light sources could remain stationary and would have fewer moving parts, with the advantage of fewer errors possible and a lower cost system. Additionally, different light sources could be used, adding more data for particular applications.

Claims **58-63**, **66** and **67** are rejected under 35 U.S.C. 103(a) as being unpatentable over Topcon EP 1291199 A1 in view of Tompkin et al. U.S. Publication 2002/0154290.

11. With respect to claims **60** and **66**, Topcon discloses all of the limitations as applied to claim 42 above. However, Topcon fails to disclose a detector for detecting the presence of security documents, a window locator for locating a window in the security document incorporating a diffractive optical element, and a document processing means for processing the security document according to the signal from the optical detection device.

Tompkin discloses:

- An edge detector for detecting the presence of a security document and for locating a diffractive optical element (P.0059, wherein reading device determines that a coin is present and what size coin, i.e. location of the edge of the coin, is present for correct alignment of source and detector apparatus)
- A processor for processing and analyzing signals from the optical detection device (P.0058)
- A document processing means for processing the security documents according to the signals from the optical detection device (P.0058)

It would have been obvious to one of ordinary skill in the art at the time of the invention to detect the presence and location of a security document with diffractive optical

element since this would be inherent in Topcon since otherwise it would be unknown when to perform the decision evaluation. It has been held that broadly providing a mechanical or automatic means to replace manual activity which has accomplished the same result involves only routine skill in the art. It would have been obvious incorporate the detector for locating the presence and location of security document with diffractive optical element since it would speed up the inherent steps which Topcon necessarily would have to perform prior to testing.

12. With respect to claims **58**, **59** and **61**, Topcon discloses all of the limitations as applied to claims 42, 57 and 60 above. However, Topcon fails to disclose a signal generated when the absence or poor quality of a diffractive optical element is detected and wherein the security article is isolated or marked when the signal is generated.

Tompkin discloses a coin with diffraction structures comprising:

- A signal is generated when the absence of a diffractive optical element is detected in a security article (P.0058, wherein signal = electrical signal to reject)
- The security article is isolated when the signal is generated (P.0058)

It would be desirable to include the rejection system of Tompkin in the security system of Topcon since this would prevent the false security items from circulating with the passing documents.

13. With respect to claims **62** and **63**, Topcon in view of Tompkin discloses all of the limitations as applied to claim 60 above. However, Topcon fails to disclose determining

the quality of the diffractive optical projection element by inspection of the projected image formed by the patterned beam and to output an accept or reject signal.

Tompkin discloses:

- Determining the presence of a diffractive optical projection element in the window (P.0058)
- Determining the quality of the diffractive optical projection element by inspection of the projected image formed by the patterned beam and outputting an accept or reject signal based on the quality of the diffractive optical projection element (P.0058)

However, Topcon and Tompkin fail to specifically disclose using a process logic controller or microprocessor to determine the presence of a diffractive optical projection element in the window.

It would have been inherent that Tompkin uses a microprocessor, or another equivalent computational apparatus, to determine the presence/quality of the diffractive optical projection element since he uses electrical signals as outputs of measuring and provides for an autonomous system, not necessitating user interaction for decision making (P.0007, P.0020).

Additionally, it would have been desirable to use a processor and subsequently accept or reject based on the measured projected image as in Tompkin since this would automate the

process, which is within ordinary skill in the art, as well as provide a useful output by categorizing the coins through accept or reject signals for further processing.

14. With respect to claim **67**, Topcon in view of Tompkin discloses all of the limitations as applied to claim 60 above. However, Topcon fails to disclose a document processing means including a document sorter.

Tompkin discloses a coin with diffraction structures comprising:

- The document processing means includes a document sorter (P.0053 and P.0058)

It would be desirable to include the sorting system of Tompkin in the security system of Topcon since this would produce a useful outcome from determining the authenticity of the coins, allowing one to select a particular identity or to discard false documents.

Claims **64** and **65** are rejected under 35 U.S.C. 103(a) as being unpatentable over Topcon EP 1291199 A1 in view of Tompkin et al. U.S. Publication 2002/0154290 and further in view of Walker et al. U.S. Patent #6,111,953.

15. With respect to claims **64** and **65**, Topcon in view of Tompkin discloses all of the limitations as applied to claim 60 above. However, Topcon fails to disclose a barcode printer to print an accept or reject code on the security document and to process the document in accordance with the code printed.

Walker discloses an authenticating document apparatus comprising:

- A barcode printer, wherein the barcode printer prints a security code on a security document in accordance with the output of the processor (Col.4, l 54-60)
- The document processing means processes the security documents in accordance with the code printed by the barcode printer (Figure 4)

It would have been obvious to one of ordinary skill in the art, that after verification the authenticity code (accept or reject) is printed onto the document as in Walker, in order that it is not necessary to repeat the authentication for each subsequent processing step. This saves time from repeating authentication and allows the security document to be processed at a location separate from the verification processing. Additionally, it would have been obvious to further process the security document in accordance with the printed security code since this would provide a useful output of the verification steps.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to REBECCA C. SLOMSKI whose telephone number is (571)272-9787. The examiner can normally be reached on Monday through Thursday, 7:30 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on 571-272-2059. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/L. G. Lauchman/
Primary Examiner, Art Unit 2877

Rebecca C. Slomski
Patent Examiner

rsc